

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) ~~Seed of~~ A seed of a cotton variety cultivar designated 01Z34 wherein a sample of seed was deposited under ATCC Accession No. _____.
2. (CURRENTLY AMENDED) A cotton plant, ~~or parts or a part~~ thereof, of variety cotton cultivar 01Z34, ~~wherein a sample of seed of said variety having been~~ cotton cultivar was deposited under ATCC Accession No. _____.
3. (ORIGINAL) Pollen of the plant of claim 2.
4. (ORIGINAL) An ovule of the plant of claim 2.
5. (CURRENTLY AMENDED) A tissue culture of regenerable cells produced from the plant of claim 2.
6. (CURRENTLY AMENDED) A tissue culture according to claim 5, wherein said ~~cell or a protoplast~~ regenerable cells of the tissue culture is derived from a tissue selected from the group ~~consisting of:~~ consisting of leaves, pollen, embryos, cotyledon, hypocotyl, meristematic cells, roots, root tips, anthers, flowers, seeds, stems and pods.
7. (CURRENTLY AMENDED) A cotton plant regenerated from the tissue culture of claim 5, wherein the regenerated plant ~~is capable of expressing~~ has all of the morphological and physiological characteristics of cotton cultivar 01Z34 and wherein a sample of seed of said cotton cultivar was deposited under ATCC Accession No. _____.
8. (ORIGINAL) A method for producing a hybrid cotton seed comprising crossing a first parent cotton plant with a second parent cotton plant and harvesting the resultant hybrid cotton seed, wherein said first parent cotton plant or said second parent cotton plant is the cotton plant of claim 2.
- 9.-16. (CANCELED)

17. (CURRENTLY AMENDED) A cotton plant according to ~~claim 16~~ claim 24, wherein said herbicide resistance ~~is to~~ is selected from the group consisting of glyphosate, glufosinate, ~~a sulfonylurea or imidazolinone herbicide, or a~~ glufosinate, sulfonylurea, imidazolinone and protoporphyrinogen oxidase inhibitor.
18. (CURRENTLY AMENDED) A method for producing a cotton plant that contains in its genetic material a transgene, ~~comprising~~ wherein said method comprises crossing the cotton plant of claim 2 with ~~a cotton plant containing~~ either a second plant of another cotton cultivar which contains a transgene or a transformed cotton plant of the cotton cultivar 01Z34, so that the genetic material of the progeny that result from the cross contains a transgene operably linked to a regulatory element.
19. (CURRENTLY AMENDED) The method of claim 18, wherein said ~~transgene is~~ transgene confers a trait selected from the group ~~consisting of~~ consisting of herbicide resistance, insect resistance and disease resistance.
20. (CURRENTLY AMENDED) ~~Cotton plants~~ A cotton plant, or parts or a part thereof, produced by the method of claim 18.
21. (NEW) A method of introducing a desired trait into cotton cultivar 01Z34 comprising:
 - (a) crossing the 01Z34 plants, grown from seed deposited under ATCC Accession No. PTA-_____, with plants of another cotton line that comprise a desired trait to produce F1 progeny plants, wherein the desired trait is selected from the group consisting of male sterility, herbicide resistance, insect resistance and resistance to bacterial, fungal or viral disease;
 - (b) selecting F1 progeny plants that have the desired trait to produce selected F1 progeny plants;
 - (c) crossing the selected F1 progeny plants with the 01Z34 plants to produce first backcross progeny plants;

- (d) selecting for first backcross progeny plants that have the desired trait and physiological and morphological characteristics of cotton cultivar 01Z34 to produce selected first backcross progeny plants; and
 - (e) repeating steps (c) and (d) two or more times in succession to produce selected third or higher backcross progeny plants that comprise the desired trait and all of the physiological and morphological characteristics of cotton cultivar 01Z34 as described in the Variety Description Information and as determined at a 5% significance level when grown in the same environmental conditions.
22. (NEW) A plant produced by the method of claim 21, wherein the plant has the desired trait and all of the physiological and morphological characteristics of cotton cultivar 01Z34 as described in the Variety Description Information and as determined at a 5% significance level when grown in the same environmental conditions.
23. (NEW) A method of producing a transgenic cotton plant wherein the method comprises transforming the cotton plant, or a part thereof, of claim 2 to produce a transformed cotton plant, wherein said transformed cotton plant contains a transgene operably linked to a regulatory element and wherein said transgene confers a trait selected from the group consisting of herbicide resistance, insect resistance, and disease resistance.
24. (NEW) The transgenic cotton plant produced by the method of claim 23.